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NEW SKILLS FOR EMPLOYMENT - COMPUTER EDUCATION FOR THE DISABLED

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The computer application centre at NJDC is a pioneering centre launched for the first time in India. The potentials and capabilities of the disabled are seldom fully utilised. Typically, the people with disabilities receive training in stereo-typed vocations like canework, printing, book-binding, plumbing etc. Moving away from these trends, the Spastics Society of India has started a computer applications centre for intelligent physically handicapped students with an aptitude for high-tech education.

THE RATIONALE

Although many computer applications centres have mushroomed in recent years, the direction and traditional functions of these training centres were not suitable for the needs of people with disabilities. In the background, the computer applications centre was started at the NJDC with following specific objectives:

●   To provide an opportunity to overcome some communication problems related to disabilities

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with the help of computer application and appropriate software use.

- To train differently able students in securing executive, high level jobs in a competitive job market.

- To provide vocational training in office skills to suit the modern computer-oriented office environment.

SELECTION OF TRAINEES

The initial screening process is the preliminary assessment carried out by a team of professionals including a social worker, therapist and psychologist. These assessments are helpful in identification of any aids, appliances etc. needed by the new client.

The computer department then looks into academic strengths and learning potentials of a given individual, which may help him in successfully completing a course and be ready for employment in appropriate field.

SELECTION OF COURSES

Unlike the traditional computer training centres, where only a very limited choice of courses is available, our courses are tailor-made to suit the needs of each of our trainees. Post training placement potential and individual aptitude is kept in mind while selecting the courses.

PLACEMENT POINT OF VIEW

- **Minimum academic qualification SSC:**
  Research shows that employers are not willing to
  employ a person without the secondary level
  qualification.   In fact, most employers prefer
  graduates.

- **Working knowledge of English:** As the office
  administration and accounts in almost all
  commercial set-ups is in English, a working
  knowledge and familiarity with the language is
  essential. Moreover only a person fully conversant
  with English can understand the software
  programme instructions and consequently interact
  with a computer. From all these points of view
  English and computers have a one-to-one
  correspondence.

- **Individual aptitude:** Often, we come across
  intelligent, well educated, highly qualified people
  with disabilities whose only 'handicap' is their poor
  hand function. They can match if not outdo any
  other person in terms of understanding, logic or
  representation. They may not, however, be able to
  key-in the data or do word processing with the
  same speed as their non-disabled peers. In such
  cases, careful selection of software programmes is
  done to optimise the potential of the individual.

Computer technology is scaling new peaks. These days, an introduction to software application begins very early in life. Computers are being used for play and leisure too. Even academically, less gifted persons want to be a part of these recent advancements. For some courses, when the family indicates specific placement plans, we have waived the minimum academic qualifications and offered computer working knowledge to many differently able trainees.

- **Special assistive software:** Poor hand functions and muscle inco-ordination due to cerebral palsy is a common difficulty with a number of our clients. Simultaneous use of two or more special function keys is difficult for them. This problem affects their speed too. Special assistive software programmes are available to increase efficiency of such users.

THE CENTRE CATERS TO ALL DISABILITIES

We have successfully trained students with hearing/speech impairment, partial visual impairment, orthopaedic handicap, cerebral palsy, polio and other physical handicaps due to accidents, etc.

SPECIAL AIDS IN THE LAB

While our courses are designed to suit the corporate work environment, we use certain physical aids, to enable a

severely disabled person to use a computer in a more efficient and less taxing manner. Some simple modifications include, a clip by the side of the monitor, to hold the text material to be keyed in. This reduces strain on the eyes by restricting the movement of the eyes from the monitor to the paper. A foot-stool, a pointer and a special chair for proper posture are some of the other tools used to enhance physical ability.

"I WRITE" (R) - A 'WRITING' AID

The Institute for Research in Information Sciences, IRIS, headed by Prof. Isaac, a retired professor of Electronics from Indian Institute of Technology, Bombay has developed a software called 'I Write'. This is a computer-based writing aid for the physically handicapped, whose lack of dexterity limits efficiency.

The software is a result of extensive research. As the primary objective of this software is word processing, preliminary research focussed on redesigning the key board. Conventional typewriter key arrangements have been exchanged in favour of this innovative key board. Ergonomical principles of visibility range, frequency of occupance of letters, reach of hands etc. have been successfully incorporated in this design. At present, the software has a limited 'writing' capacity or vocabulary of about three hundred and fifty words. Although adequate for routine business letters and general correspondence, this capacity limits creative writing. The software will

soon be updated to include more words, formatting choices, editorial capabilities and even the thesaurus.

However, the highlight of the software is the alternative keyboard input in the form of single point entry. The input can be in the form of a puff, a sound or a letter. Those who cannot type can hope to do so with this software. The future versions will adapt this software to other popular packages for file management, data processing, financial management etc.

DIFFERENT COURSES OFFERED AT THE COMPUTER APPLICATIONS CENTRE

The carefully prepared syllabus includes all aspects of computer literacy, starting with the fundamentals of computers to advanced programming, as well to use of application packages. One-to-one attention, stress on practicals and hands on experience on different operating systems and various types of computers. Each student is given an exposure to installation of software, data management and minor trouble-shooting. The courses offered vary in basic qualifications required, duration and obviously the placement opportunities. Students have a choice of upgrading their qualifications through successive courses. Each of the courses currently offered are discussed below:

- **Certificate Course in Computer Applications:** Computer concepts, Operating systems, Word

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processing, Data base management, Spreadsheet, etc.
Duration: three to five months.
Qualification: SSC

- **Computer Application and Programming:** Programming Logic and Techniques, Programming in dBase III+ and Clipper.
Duration: three months after completion of the first course.
Qualification: HSC/Graduate, relaxable for candidates, who excel in the first course and have proper aptitude.

- **Certificate Course in Desk Top Publishing:** Duration: three months
Qualification: HSC plus completion of the first course.

- **Diploma in Computer Programming:** Systems analysis and design and one programming language (Cobol, C, etc.)
Duration: six months after completion of the above courses.
Qualification: Graduate.

- **Short Term Courses:** Basic Programming, Exposure to Accounts Packages Lotus/dBase/Wordstar/Wordperfect etc.
Duration: A few weeks each.

Qualification: Varied. Students who have undergone a fundamental computer course can do any of these short term courses.

The first three of the above courses have been running for the last fifteen months. The short term courses and the diploma course framework is ready. These courses are need-based and would be initiated as and when required. So far, approximately twenty trainees have successfully completed various courses and sixty percent are gainfully employed in Government, private and public sector companies. Six of our students (thirty percent) have returned to the National Job Development Centre for completing advanced courses. The courses' content is continuously modified or upgraded to meet the changing needs of employers. As selective training is the primary objective of NJDC, we maintain a very active industrial interface. We would like to emphasise here, that we are well equipped to provide a tailor-made programme for any corporate requirement.

RECOGNITION OF COURSES

University of Bombay and Directorate of Technical Education have been approached for the recognition of our courses. We hope that such attachment will facilitate our clients in applying for jobs in public sector companies or banks, after successfully completing their courses. This will also attract more able-bodied persons to participate in our courses, thus helping us with reverse

integration of our students.

REVERSE INTEGRATION

Substantial research into training of the differently able shows that one of the reasons why clients with disabilities can not retain employment is the lack of exposure to the working environment. In a special training institute, the instructors, supervisors and managers are aware of both the potentials and limitations of the group. Attitude studies in the U.S. have also shown that achievements in a sheltered environment tend to be exaggerated. As already mentioned, our objective is to integrate our special students into regular jobs, especially at the higher level, i.e. Class I and II type of openings! Naturally, an isolated environment is not conducive to this objective. The difficulties in admitting people with disabilities into existing computer courses are also known. We therefore, have tried a new concept of 'reverse' integration.

A few students with minimal or no disability are also admitted to the computer applications centre. They benefit due to the financial concessions and close monitoring we provide. The secondary benefit of the approach is that they learn to accept that people with disabilities are capable in many different ways. Co-education, increased interaction and socialisation helps the whole group. There is a healthy competition and a will to prove one's potential.

The pilot project was initiated only for preliminary courses so far. We hope to extend it to all age groups and academic levels. We cannot yet provide documentary evidence for the success of this new venture but we are continuing with the integrated batches and hope to document in near future.

ON THE JOB TRAINING

Research on success placements has indicated the need for apprenticeship training or work experience. Studies further show that practical, on-the-job experience, especially in word processing data management and data entry, is essential for job retention.

Many industries showed an active interest in providing us with job work. We decided to take this opportunity to initiate the much-needed work experience at the computer applications centre and have found that the confidence of the students increases with this on-the-job training.

PLACEMENT OPPORTUNITIES

As already discussed above, computer training opens up many new employment avenues in the corporate sector. The opportunities include data entry operators, junior programmers, general office assistants, etc. We are confident that more opportunities would emerge as the advance training commences.

CONCLUSION

The Computer Applications Centre, a nascent training opportunity, is well-equipped to meet the varying demands of interested students and the corporate sector. We have only made a beginning yet, but hope to achieve our objectives of securing senior-level, managerial jobs where people with disabilities would be the decision makers. They will then be active participants in policy making and contribute towards the development as well as the growth of our country.

ACKNOWLEDGEMENT